THE
MEDICAL AND SURGICAL REPORTER.

No. 2102. SATURDAY, JUNE 19, 1897. VOL. LXXVI—No. 25.

ORIGINAL ARTICLES.

THE LACHRYMAL APPARATUS.

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The lachrymal apparatus consists of a mucous membrane covering the front of the eyeball and lining the eyelids, together with the associated glands, especially one large mass called the lachrymal gland, and the tubes draining this sac into the nose. This mucous sac, called the conjunctiva, is subject to so many and distinct troubles, that it is customary to separate them under a distinct heading; while by general consent, the so-called lachrymal troubles or diseases are limited in their discussion to the disorders of the draining tubes, sometimes including the lachrymal glands.

The lachrymal glands are undoubtedly the chief source of the tears, but not the only one. There are a number of acinous glands (Krause's) in the folds of the conjunctiva, and the numerous mucous follicles, the secretions from which, together with that from the whole mucous surface, all commingle to form the tears, which, having performed their function to the eye, collect at the inner or nasal angle, forming the lachrymal lake, from which they are drained into the nose.

The drainage tubes begin at the extreme inner end of the true lid upon its mucous surface, just where the skin leaves the rounded surface of the globe to rise over the side of the nose. At this point the opening into the canaliculus, called the "punctum" is to be found—sometimes in the apex of a small papilla—there being one in each lid. The tube is at first nearly perpendicular to the edge of the lid for two or three mm., then turns toward the nose, making nearly a right angle in its course, and running parallel to the junction of the skin and mucous membrane till it meets its fellow from the opposite lid. They join, forming a single tube which almost immediately enters the side of the lachrymal sac about one-fourth of the way down from its summit.

This tube of the canaliculus is not of a uniform diameter; it is smallest at the punctum, is considerably enlarged at the bend, then nearly uniform to the entrance to the sac, where it is again contracted and further complicated by a fold in its lining membrane.

The lachrymal sac lies in a nearly vertical position in a groove of the lachrymal bone, and is only relatively large—about six mm. antero-posterior diameter; four mm. laterally, and nearly two centimeters long. It is dome-shaped above, gradually narrowing towards the lachrymal foramen, where it becomes continuous with the nasal duct.

The nasal duct is that part which passes

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through the bone to the nose. It does not fill the entire lachrymal canal, but is surrounded by cavernous tissue, while the duct itself is only about two mm. in diameter, and debouches into the lower meatus of the nose about two centimetres posterior to the anterior end of the lower turbinate. A fold in the lining membrane near the outlet acts somewhat in the capacity of a valve.

I would call attention to the very tortuous course of this channel. If we trace it through the lower punctum, it is first downwards, then curved inwards, upwards and backwards to the common duct through which it is directly inwards—through the sac the direction is downwards slightly forwards—and through the duct downwards, outwards and backwards.

The power that propels the tears from the conjunctiva to the nose is the combined result of several forces perhaps not fully understood. Gravity is undoubtedly a large element; then capillary action, especially in the canaliculi, and the cilia of the epithelial lining, which is along the whole course except the dome of the sac, must play a part, as must also the suction in the nose during inspiration. Besides these, there is a muscular force. We physiologically sub-divide the orbicular muscle into several parts. The palpebral portion, in closing the eyelids, pulls upon the internal palpebral ligament and this in its turn draws upon the outer wall of the lachrymal sac, giving a corresponding amount of suction to the tears in the canaliculi; while the same movement draws the lachrymal puncta or papillæ down upon the eyeball, making them dip into the lachrymal lake.

There is another small muscle that is supposed to influence the flow of the tears —the tensor tarsi or Horner's muscle. Arising from the crest of the lachrymal bone, it passes behind the sac, thence divides into two bundles, one surrounding the lower, the other the upper canaliculus.

In opening the eyelids the orbital portion of the orbicular is used, while the palpebral portion and the internal ligament are relaxed; consequently the lateral wall of the sac falls back into place. The opening movement puts Horner's muscle upon the stretch, compressing the canaliculi and raising the posterior wall of the sac, and thus forces its contents on into the duct and nose.

The discussion of the disorders of the lachrymal apparatus should properly begin with the secretion of the tears themselves; the changes that take place regarding the quantity, as being either too great or too small; changes in the characters of the fluid, the watery element or salines being too great; excess of mucus; the presence of pus; the presence of abnormal ingredients as when potassium iodid, etc., is excreted.

All these are usually relegated to the heading conjunctiva. I will only mention one, because I see it has often been mistaken for disease in the drainage tubes. I refer to the overflow of tears so frequent with some persons, especially in winter, upon their exposure to the out-of-doors air. Sometimes this is undoubtedly due to a too small draining tube, but, in not a few, the trouble lies in a too abundant secretion, and has its origin in an oversensitive condition of the nerves, whereby the glands respond too freely to an ordinary stimulus. This hyperesthesia may be local, and is then frequently connected with an exhausted, over-worked eye; as from the want of glasses, or the wearing of improper ones; or the condition may be general, so that the eye-trouble is but a single manifestation of a condition affecting the nerves of the whole body. I would emphasize the point that not all cases of stillicidium are those of obstruction in the draining tubes, and to treat them as such would be a serious error.

The troubles at the commencement of the tube, or punctum, can be classed under the head of wrong position, or of stricture. Normally, it is the narrowest part of the tube, and, being situated superficially in the conjunctiva, it is implicated in every inflammation of that membrane. It is, therefore, a frequent seat of stricture, and one that is limited to this part.

The treatment consists in dilatation, which is done with a small conical probe, which needs to be introduced only two or three mm. to effect a cure.

When the punctum is out of position, so that, upon closing the lid, it does not drain the lachrymal lake, the condition is

an ectropion (or entropion) of the lid, and the treatment is detailed under those headings. For example, when due to a swollen conjunctiva, astringent collyria that cure that condition, restore the punctum to its place; when due to a contracting cicatrix, or a relaxed orbicularis, the operative treatment should take account of this point, and its function as well as the cosmetic results.

It is only when the lid cannot be accurately replaced, that we are called upon to apply treatment directly to the punctum. In such cases we split open the canaliculus just far enough to permit the tears to enter; our own practice is to limit the cut, rarely finding it necessary to open beyond the bend.

The next point of trouble is to be found at the entrance to the sac, where the tube is normally contracted, while any inflammation or distension of the sac itself tends strongly to close this small opening. The treatment for stricture at this point is dilatation by means of probes, a simple and easy method to describe, a delicate, not to say difficult, one to execute.

The stricture may not admit even number one probe without pressure, to make which we are in danger of perforating the tube, perhaps the sac wall as well, because the position and direction of the entrance is frequently a changed one, consequent upon the swelling or inflammation in the sac. There also is a fold in the lining membrane at this point readily caught upon the end of the probe, and, as it is pressed forwards, will stretch, forming a pouch or pocket over its end, easily perforated by a fine probe, thus making a false passage through the wall of the sac itself, or into the loose connective tissue surrounding it. But with care and gentleness these difficulties can be overcome, a probe passed, and the stricture dilated.

When a small probe cannot be passed without undue pressure, a good method is to insert so large a one as the lower canaliculus will easily carry, and after making pressure for a few moments to withdraw it and wait twenty-four hours, when another attempt will usually succeed. The splitting of the stricture with a knife, I have not found necessary in my cases.

The tubes of the canaliculi between their ends rarely call for any treatment separate from that applied incidentally when treating the parts beyond. Sometimes the tube is narrowed throughout its whole length; still more rarely dilated, this latter resulting from the accumulation of the secretions after both ends have become closed. I would here report the following case:

Mr. A. C., aged 70, applied for relief from stillicidium also complaining of a growth from beneath the upper lid, above the internal canthus. This swelling had been gradually increasing for a year or more and was now large enough to be noticed by his friends. It was without pain or inconvenience except its appearance. Upon examination I found a stricture at both puncta, at the entrance to the sac, and at the upper end of the nasal duct.

I dilated the upper punctum, incised the lower one and two-thirds of the lower canaliculus; then dilated the two following strictures and washed out the whole canal through both canaliculi. This improved the condition, but did not cure the irritability of the eye nor remove the swelling.

A probe passed into the upper punctum led to a large cavity estimated at half a centimeter in diameter, from the lower nasal side of which the probe passed on into the lachrymal sac, and the water injected promptly appeared in the nose. After continuing this treatment for two weeks, I divided the upper punctum and canaliculus for two-thirds its length, and found the cavity filled with angular cystoliths, ten in number about one mm. in diameter. These I take to be cystine. (Specimen exhibited.) The case then made a rapid recovery.

The lachrymal sac serves as a reservoir for the tears, regulating the flow into the nose and should teach us that they have this additional purpose of keeping the lower meatus of the nose in a moist condition.

The inflammations of the sac usually begin either in the nose or conjunctiva, the infection traveling along the connecting ducts. It is nearly always involved, for example, in cases of phlyctenular conjunctivitis so commonly associated with

nasal catarrh of the same side. These and all mild inflammations of the sac seem to call for no especial treatment directed to it. The applications made to the conjunctiva, or to the conjunctiva and nose, result in a speedy cure.

It is only when there is an obstruction in the nasal duct either from swelling or from stricture that the pathologic condition of the sac becomes manifest. The accumulated fluid early ferments and distends the sac to its utmost extent and finally, unless interfered with, becomes an abscess usually bursting upon the cheek below the inner canthus. The pressure from within instead of opening the nasal duct appears to close it more firmly, probably by pressing a fold of the mucous membrane down upon the entrance like a valve. A similar effect also takes place at the entrance of the canaliculus. This is further increased by the tension put upon Horner's muscles.

The first step in the treatment is to evacuate the contents of the sac. This can frequently be done by a little pressure skilfully applied over the inner canthus, the contents flowing off into the nose or back into the conjunctiva. This latter can certainly be done after dilating the canaliculus. The sac can then be washed out with a mild antiseptic, and the further treatment is directed towards the opening of the nasal duct.

An obstruction in the nasal duct can be the result of one of several conditions and should be treated accordingly. It may be due to a swelling of the mucous membrane of the nose, closing the outlet, or to a polyp or growth in the lower meatus, producing the same result. These of course require the usual treatment for nasal swelling—catarrh, polyp, etc. When an inflammation extends along the duct it usually begins in the nose, the mucous membrane of which is similarly affected. This swelling frequently involves the cavernous tissue around the duct. These require but a slight variation from the treatment given to that condition in the nose. Hot applications to that side of the face and nose, cocain and boric acid to the lower meatus, a purge, one or a combination of these will usually relieve the swelling and re-establish the flow of tears.

When there have been repeated attacks of inflammation and a stricture is formed or one or more strictures have formed, from any cause, they are to be dilated by probes passed from above as follows: Incise the lower canaliculus about three-fourths of its length with a Weber's knife —the remaining fourth is easily twisted upon the probe without springing its point out of position. A small probe is then passed as far as the nose if it can be done without violence; I am satisfied if I can pass a No. 2 at the first sitting. This to be followed at subsequent seances by larger ones until the capacity of the tube is reached, usually Nos. 6 or 8 of Bowman's series. I have not found a duct large enough to admit a probe so great as No. 10.

When even a small probe cannot be passed at the first sitting I introduce a larger one (Nos. 5 or 6) so far as the stricture, and having made firm pressure upon it for a few moments await another trial, knowing that the massage in connection with the other treatment will cause some absorption and allow of a passage usually at the second or third sitting. This dilatation with probes is of course accompanied by the use of antiseptic or other applications to effect a cure of the inflammation or other pathologic condition.

There remains to mention those rare and severe cases in which the bones of the nose have become changed or diseased from any cause as injury, syphilis, etc., and in which the lachrymal duct has become obliterated. In these cases it is usually not difficult to force a probe through the softened parts in about the position of the duct, making an artificial opening. The truth is, a false passage can be made so easily in all these cases of stricture, that it forms one of the chief difficulties in their treatment.

This artificial opening would, of course, close very quickly if left to itself, but a piece of lead wire can be inserted and left in place, the upper end being bent so as to lie in the canaliculus—the tears finding a ready exit around it.

After a few months an artificial duct has become established and the lead-wire can be withdrawn. The tears will then flow into the nose, but the functions of

the normal duct have not all been restored. The tears are, in such a condition, carried immediately into the nose, the sac not being a reservoir. Moreover, the mucus from the nose is frequently blown back even as far as the conjunctiva, keeping the whole tract irritated, if not inflamed.

This same condition results from the passing of very large probes through the duct, causing the mucous membrane to atrophy and leaving an open tube where there should be a patulous one only.

The above line of treatment, which I would fain call "conservative," undoubtedly requires great care and patience, not to say skill, on the part of the operator to accomplish the desired end, but to my mind it will repay all the attention needed, and when I read in a contemporary Western journal of such extreme measures as destroying the lachrymal sac, sometimes even dissecting it away, I would account it a "bravado of speech" rather than an actual proceeding necessary to a patient.

TRAUMATIC HYSTERIA.

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The development of distinct groups of symptoms as a result of traumatism in general, suddenly and violently inflicted, and of railway injuries in particular, is now an established and accepted fact. In some cases there results actual organic disease of the spinal cord or its membranous envelops; in others the bones, the ligaments, the fasciæ or the muscles may suffer from strain or laceration or contusion; while in yet another group of cases it may be impossible to detect any evidence of organic disorder. To cases of the last kind it has become the custom to apply the designation of traumatic neuroses, but they usually fall easily into the category of either neurasthenia or hysteria. Simulation is probably rare, although exaggeration is common.

The two cases that I desire to report are instances of traumatic hysteria. The symptoms of this disorder do not differ essentially from those of hysteria of any other origin, but I have used the term in order to express disapproval of it. One of the cases is of especial interest on account of its long duration, and because of the further fact that it has already been briefly placed on record; the second is noteworthy from the presence of muscular atrophy. The first was complicated by a suit for damages, but a settlement out of court was unattended with any amelioration of the symptoms; in the second the question of damages did not arise at all.

Among a group of seven cases reported by Dercum† in a paper entitled "The Back in Railway Spine," was that of H. M. G., at that time twenty-three years old and employed in a rolling-mill. May 7, 1890, it was noted that the spine was excessively tender, rigid and sensitive to superficial pressure. The general surface of the back was hyperesthetic, and there was soreness in the small of the back on deep pressure. There was also pain in this region on flexion, torsion and transmitted shock. There was slight lateral curvature to the right. There was decided spasm of the lumbar muscles on the right, and the reflex excitability of the muscles of the back generally was great. The knee-jerks were excessive, and ankle-clonus was present. The grasp was weak and tremulous. The patient limped with the left foot, and there was pain over the instep. Sensation appeared to be good everywhere, although occasionally errors

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† American Journal of the Medical Sciences, September, 1891, p. 247.

of localization were made. The man evidently was neurasthenic. The visual fields were much contracted. On a number of occasions there had been convulsions.

The patient presented himself May 29, 1896, at the age of twenty-nine years, at the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases, in the service of Dr. S. Weir Mitchell, when the following history was elicited:

May 3, 1889, while riding with a number of friends in a coach, the vehicle was run down by a rapidly moving locomotive. Of the party two were killed outright and seven were injured. The patient received several lacerated wounds of the scalp and one at the external canthus of the left eye, but no other significant injury was noted. He thinks he may have lost consciousness at the time for a few hours. He was removed to his home and remained in bed for about a month following the accident, during this time being much distressed. He suffered a good deal from pain in the left half of the chest, and was unable to lie upon that side. Sleep was greatly disturbed. The sphincters remained under control, and it was not recalled that a catheter had to be used.*

When the patient arose from bed he found himself extremely weak, and suffering greatly from pain referred to the dorsal spine. He limped somewhat with his left leg, although there was no actual palsy. He continued pretty much in this state for about two years, when, on resuming his usual pursuits, he would, on attempting to engage in physical effort, or upon excitement, fall to the ground and be seized with general convulsions of so violent a nature as to require the combined efforts of eight men to restrain him. In these attacks there was no loss of consciousness and no biting of the tongue, although at times there was frothing at the mouth, and the patient often attempted to bite his own hand. The attacks recurred at varying intervals, from once a week to once a month, and they were followed by weakness and headache, but not by drowsiness or sleep. They lasted a variable time, the active convulsive movements occupying perhaps fifteen minutes.

Sometimes a series of attacks followed one another in quick succession. The attacks were often relieved by homeopathic medication. In the year preceding the time of the patient's first visit it was thought that the character of the attacks had changed, and this alteration was attributed to the treatment employed. Now, instead of going off into a convulsion, the patient would become weak and would then seat himself, so that he no longer fell. During the first two years in which the more aggravated attacks occurred, the patient would cry out in the convulsive stage that he heard the locomotive coming, the bell ringing, etc. In anticipation of some of these attacks he felt weak and had pains in the head. Often the eyes would become suffused. For six months the patient had felt that he was growing weaker, that his memory was failing, that his general nervousness was increasing, that his appetite was suffering, and many similar things. His last seizure had taken place May 21, 1896, and in this the left side especially was involved, the right but little. Sleep followed. The patient knew of no means by which the attacks could be aborted.

The man was evidently anxious and worried. He was pallid, though apparently well nourished. The pupils were equal, regular and reactive to light. Dr. A. G. Thomson found vision almost normal in both eyes, the discs and fundi healthy and the fields of the left eye for both color and form contracted to 10° in all directions. The reflexes were preserved in the upper extremities. The gait was somewhat decrepit, but station was quite steady. The knee-jerks were ready and active and a little irritable, and abortive ankle-clonus could be elicited. No significant deformity of the spine could be detected. The gentlest touch upon various parts of the back, especially over the spine, gave rise to manifestations of severe pain. Percussion with a plexor in the same region, as well as upon the anterior aspect of the left half of the chest and upon the head, was also painful.

* Dercum [loc. cit.] has, on the contrary, recorded that for a time the patient could not pass his urine, and had to be catheterized.

Suggestion appeared to minimize the pain and it was thought that the pain was less when the patient did not anticipate the sensory impression. No anesthesia could be detected anywhere. The heart was overacting; the first sound was booming, the second was clear.

There was nothing noteworthy in the family or personal history. The patient took no alcohol, and tea and coffee only in moderation, although he chewed and smoked tobacco to excess. He had originally entered suit for $25,000 against the railroad company which he held responsible for the accident and his disability, but he had made a settlement out of court for $5,000. He was, however, utterly unable to shut out of his mind the memory of the accident.

Removal of a plug of wax from the left ear by Dr. R. W. Seiss corrected a discharge that set in and relieved the aural discomfort. Under varied treatment, in which suggestion played a large part, marked improvement ensued, although mild convulsive attacks would recur from time to time, and the general nervous state persisted. A single attempt at hypnotism proved unsuccessful.

I think there can be no doubt about the hysterical nature of this case. Its mode of origin, its whole course, the convulsive seizures, the hyperesthesia, the influence of suggestion, the absence of all evidence of organic disease, stamp it with a certainty that scarcely permits of mistake. There can be no question of shamming here and it is noteworthy that the pecuniary adjustment was followed by no mitigation in the severity of the symptoms. The prognosis naturally grows less favorable with the longer continuance of the disease. It is impossible to estimate what well-directed and persevering treatment from the beginning might have accomplished.

The second case is of a somewhat different type, both as to its origin and its manifestations.

F. L. G., a brakeman, thirty-one years old, applied at the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases April 30, 1897, in the service of Dr. S. Weir Mitchell, relating that on October 2, 1896, while engaged in braking, he was caught between a moving car and a platform and rolled between the two the length of a car. He stated that five ribs were broken on the left side, one of them penetrating his lung. He spat blood and also passed blood by the bowel. He vomited, but no blood. He believes that he was unconscious for several hours. He thinks the left shoulder was crushed and that a fracture of one of the bones resulted, but no splint was applied by the surgeons at the hospital in which he was received and where he remained for four weeks and two days. According to the statement of the patient's wife the little and ring fingers of the left hand were stiff from the beginning and the arm from the shoulder down was numb. The man had been unable to use the member to any great extent since the accident, and wasting had taken place in the muscles of the arm and hand, especially in the interossei. The fingers of the left hand were partially flexed in the claw-position and could be only feebly flexed further or extended.

The knee-jerks were preserved, though feeble. Slight ankle-clonus could be elicited. The deep reflexes were preserved in the upper extremities, though perhaps not quite so active on the left as on the right. Gait and station were steady. There was some tenderness over the vertebræ from the seventh dorsal to the first lumbar. Tactile, painful and thermal sensibility was entirely lost in the left hand, and greatly impaired in the entire left upper extremity and the adjacent half of the chest. Heat was sometimes merely appreciated as common sensation, and sometimes as cold. There was no tenderness in the course of the nerves.

The patient was rather loquacious, and possessed of only average intelligence. His wife states that since the accident he has had attacks in which he goes about the house and acts irrationally. No hallucinations could be elicited, and there have been no convulsive seizures. Visual acuity and the fields of vision for both form and color were found to be normal. No degenerative change was found in the wasted muscles on electric stimulation. The patient was on several occasions hypnotized readily, and various suggestions were made. The Paquelin cautery has

also been applied over the lower part of the spine. Distinct and progressive improvement has taken place in both mobility and sensibility, and it seems not unreasonable to hope that complete recovery shall eventually ensue.

There has been no question of damages in this case, inasmuch as the patient had entered as an employe into an agreement with the railroad company not to prosecute any such suit in case of injury incurred in the performance of his duty. In view of the considerable traumatism reported to have been received, there was at first just a shade of doubt whether or not the case were one of hysteria solely, especially on account of the trophic changes in the muscles of the left hand, but the peculiar localization and the atypical distribution of the manifestations, together with the patient's susceptibility to hypnotism and the beneficial effects of suggestion, seem to justify the diagnosis and shape the prognosis.

Concerning the intimate nature of hysteria, we can as yet but theorize. To designate the disorder a *neurosis* adds nothing to our knowledge, and to burden this designation with such qualifications as *functional*, or *reflex*, or *idiopathic*, or *traumatic*, in no wise tends to clarify our notions upon the subject of its pathology. Death rarely takes place as a result of hysteria, and in fatal cases no distinctive lesion or residuum of a former lesion has been found.

Aberration of function, however, bespeaks alteration in nutrition, and it is to influences of this kind that we must direct our scrutiny in the endeavor to elucidate the pathology of diseases of the type of hysteria. In hysteria we have to deal essentially with a defect in nervous co-ordination, an adequate cause for which can be conceived to reside in the metabolic alterations in the ultimate nervous elements resulting from modifications in cellular nutrition.

Such a conception is not in conflict with the alluring theory of the motility of the neuron, so ably advocated by Dercum and others, as it is probable that the metabolic processes taking place in all of the tissues are attended with cellular movement. This view can be made to account for the diversity, the variability and the transient character of hysterical symptoms, their wide and irregular distribution, and at times their identity with and mimicry of those of organic disease, as well as the possibility of perfect recovery. In it also is to be found the rationale of our treatment of hysteria, whose aim is ever the restoration of a condition of nutritional equilibrium.

It carries with it, finally, a suggestion bearing upon the heredity of hysteria and other so-called neuroses. It is not improbable that every cell is endowed with its own metabolic peculiarities, which it transmits in turn to its offspring throughout all time.

I am permitted to make the report of these cases through the courtesy of Dr. Mitchell.

The "Ager."

Ah, that rascally chill!
I remember it still
  As it used to slip up the back way,
And get in its work
With a twist and a jerk,
  About ten o'clock in the day.

Can I ever forget
The shake and the sweat,
  With the fever sandwiched between?
And the yawn and the stretch
Of the fever-cursed wretch,
  Or the size of the liver and spleen?

I remember his moans
Of the "pains in his bones,"
  And the ache in his back and his head;
And the flashes of heat
From his ears to his feet,
  And his shudders that shook the old bed.

Oh, the mixtures galore!
And the drugs from the store—
  The calomel, quinine and such;
Oh, the bushels of pills
That he fired at "them chills,"
  And yet didn't cripple 'em much.

—*Bulletin of Pharmacy.*

Astonishing.

He.—I am really surprised at Dr. White. After being our family doctor for years, and treating me for all sorts of things, and to think of all the money we've paid him, too!

She.—What has he done?

He.—He wouldn't pass me for the life insurance company!—*Boston Medical and Surgical Journal.*

THE NERVOUS SYSTEM IN HEART DISORDERS.

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Under the existing classification some diseases which have as their chief manifestation a disturbance of the cardiac functions, are placed in the category of nervous diseases, the reason being that the heart suffers mainly, if not entirely, on account of nervous abnormalities. In another class are found nervous disorders, where the heart undoubtedly plays a prominent part in the production, but where the symptoms belonging to it are not so readily connected with the main manifestations of the disease.

In the essential diseases of the heart, the influence of the nervous system as an etiologic factor is apt to be lost sight of altogether.

It is not my purpose in this paper to suggest a new classification, nor even to criticise that which is at present accepted, but rather to review, with at least some attempt at method, the reactions on each other of the circulatory and the nervous systems in the generation of the diseases characteristic of them.

While the trophic function is involved in the development, the progress, and the disappearance of inflammation, it is foreign to my purpose to dwell on this phase of the subject. It should, however, not be forgotten that the systemic conditions, which are most fertile in the production of endo-cardial inflammations, are also frequently active in propagating intra-cranial disturbances.

Rheumatism singles out the endothelium, or what it protects, rather than the epithelium, and its subjacent structures. We cannot look upon rheumatic endocarditis as a complication of rheumatism, but as an essential part of the disease itself. Just as some of the joints may escape in a given attack, so may the heart. But in a general way, we may say that its chances rank about equal with the joints. In the same way, while less often attacked than the heart, the encephalon is always susceptible. There is probably sufficient reason to believe that pathologic processes are always present, simultaneously in joint, heart and nervous centres, in rheumatism, but only in certain cases do they reach such intensity in one or the other, as to attract special attention.

In other toxemic processes, where there is liability to heart involvement, as in the specific fevers, septicemia and pyemia, the same law holds good. The nervous centres are as liable to primary affection as the heart.

Considering now, not so much acute processes as their result, valvular deformities and consequent obstructions and insufficiencies, we should not forget that multiplied nerve energy and diversion into new channels of nerve power are constantly involved in the production and maintenance of the organic changes which result in compensation. It is necessary to recognize this in order to fulfil the indications for treatment. On this basis rests the Oertel treatment, as well as the employment of the specific nerve tonics that are being constantly used.

When the limits of compensation are reached, and when the disastrous results of stasis begin to obtrude themselves, then more than ever should we recognize the close connection of the nervous system both with the tendency to failure of the circulatory forces and with the hope of prolonging life. When no more new muscular tissue can be built, then, if not before, must we look sedulously to lessening the work of the heart by rest; then must we conserve the nervous powers with jealous care that they may not be wasted in other directions, but as fully as possible applied to the work of moving the blood.

In studying the so-called neuroses of the heart, we may do well to pause for a moment to consider the relations of the functions of the sympathetic and the pneumogastric nerves. The inhibitory

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function of the latter is generally described in works on physiology in such a way that we are apt to get the notion that its influence is expended chiefly in controlling the number of beats which would occur under the uncontrolled influence of the accelerator apparatus. Admitting that this is a result of the harmonious action of the two apparently opposing powers, there is yet another effect, according to my view, of their functions.

In all the actions in which the voluntary muscles are concerned, we find that the fullest exercise of power, and the proper adjustment of force to purpose, involves two factors: The one is the energy exerted by the muscles that move the part, and the other is that of the muscles that restrain that movement. Gowers calls the former synergic and the latter antergic action. These two forces (contraction and antagonism) must act in the most complete harmony, or we have inco-ordination. A little fuller consideration will show that they are not only in play during what is known as active muscular contraction, but also in relaxation, such as occurs in any graceful movement.

Making proper allowances for differences of structure, I am convinced that in the heart we have a mechanism comparable to that in the voluntary muscles. There being no point of insertion of the muscle, both the driving and the restraining force can act through the same muscular fibre. Both the systole and the diastole are thus co-ordinated, with the result of perfectly adapting the force to the purpose —of sending into the arterial system exactly the amount of blood that the existing pressure there demands.

With derangements in the nervous mechanism come about, according to their character, the disturbances of heart action, with which we are familar in essential paroxysmal tachycardia, ordinary nervous palpitation, hysterical and neurasthenic disturbances, and allied conditions. The nice control of the one force over the other is lost, and there arise spasm, irregularity and inco-ordination.

In certain of the functional cerebral disturbances, the state of the heart's action is always constant, as in syncope. But whether the heart is disturbed because the cerebral action or central influence is perverted, or whether the higher cerebral functions fail merely because the heart sends either a diminished or increased amount of blood to the brain, is not always clear. It would appear that either can stand to the other in the relation of cause and effect.

The experiments of Mosso with the plethysmograph have shown clearly that active mentalization lessens the amount of blood in other parts. The radical pulse is affected. In neurasthenia this condition of lessened amount of blood elsewhere as compared to the brain cannot be continuously maintained as in the healthy state, indicating that the influence of the condition of the higher cerebral centers is being constantly exerted on either the central organ of the circulation, or some more peripheral vaso-motor apparatus. Most likely the effect is on both.

In neurasthenic cases the rule is a pulse of low or, speaking probably more correctly, irregular tension. The improvement in tension is a good prognostic, most probably because it indicates the restoration of an exalted cerebral state, probably a cortical regulator of the circulatory system.

In the field of the psychoses, the causative influence of organic heart disease, and the relations of arterial tension to the varieties of insanity are well recognized. The proportion of heart cases among the insane is very large. Even where no organic disease of the heart exists, in acute melancholia and in chronic dementia, evidences of enfeebled circulation obtain, resulting in stasis with its consequent edema and passive congestion.

Back of a maniacal delirium is frequently found a mitral disease. Mitral stenosis precedes the establishment of hypochondriacal melancholia. In the expansive form of insanity, aortic regurgitation paves the way. Stuporous conditions in insanity are accompanied by rigidity and contraction of the small arteries of the general system, and by a pulse of small volume and high tension. When the mental state changes for the better the normal condition of the circulation is resumed. The drugs which have the appropriate physiologic action on the circu-

lation are those which do most good in these psychoses. In fact they are frequently curative.

Thus we might go on still further, gathering from the records of the renowned observers of the profession, to show the intimate relations which exist between the two great functions on which life and all its manifestations so entirely depend. It might be said that these two, circulation of proper nutritive pabulum and evolution of nerve energy, are the whole of life, all the other functions being only adventitious, only subservient to their maintenance.

For the purposes of scientific study, strict classification and sharp distinctions are necessary. These should go just so far as our knowledge will allow. But the very facts upon which true classification depends are frequently the result of broad generalization. It should be our effort to distinguish primary and secondary conditions in both the nervous and circulatory systems, in connection with their disorders, but it is well not to forget that their relations are too intimate to allow any marked change in one without some corresponding change which is to be found in the other.

SOME METHODS OF HEALING GRANULATING SURFACES.

FREDERICK KRAUSS, M.D., PHILADELPHIA.

Before we can intelligently treat any affection it is necessary for us to know its etiology. A granulating surface always follows when an inflammation is connected with destruction of tissues. This is Nature's method of restoration of necrosed areas. Inflammation has for its object the removal or isolation of irritants. These irritants are either the tissues themselves, as when they are dead or dying or are carrying on imperfect metabolism, or are micro-organisms.

These causes, though apparently separate, are intimately united. Micro-organisms quickly invade tissues that are deficient in vitality, just as the first effect of micro-organismal inflammation is to produce dead tissues. Another classification of irritants may be made into external; such as traumatism, chemical agents, heat or cold; and internal, such as disturbed circulation, innervation, or metabolism.

Whatever the cause may be, the resulting inflammation has the same classical symptoms: redness, heat, swelling and pain. The redness is due to the increased blood supply to the part with a local dilation of the capillaries, and this causes an increased elimination of heat. The swelling is caused by the filtering out of leucocytes and plasma from the blood. The increased bulk produces pressure upon the surrounding nerves and nerve-endings, causing the sensation of pain.

Microscopically, we see the blood-vessels of the part greatly dilated. The circulation in the capillaries is slowed, white corpuscles accumulate upon the walls and gradually make their way through, accompanied by a considerable amount of modified blood plasma. This plasma has the peculiar property of coagulation, thus greatly differing from ordinary dropsical fluid. The leucocytes are further increased by the process of reproduction.

As the cells of the inflamed tissues lose their vitality, they undergo liquefaction or coagulation necrosis, or fatty degeneration, and it devolves upon the inflammatory process to eliminate them entirely. They are either absorbed or thrown out of the system directly by means of purulent discharges.

When the destruction of cells ceases, Nature immediately set about to replace the destroyed tissues. This process is termed regeneration or reorganization, and mainly concerns us in this paper. Regeneration of a part is brought about by an accumulation of connective cells, called fibroblasts. These cells, nourished by the increased blood supply, rapidly divide and

subdivide, thus filling up the space formerly occupied by the necrosed tissues. The liquid coagulates, the fibrin forming a basis for the intercellular substance. By this means, we have the granulation tissue formed, so named from the fine red granular appearance of its surface. Each one of these granules consists of a loop of capillaries which rises above the surrounding area and becomes enclosed by these new connective cells. These fibroblasts afterwards become transformed into the proper connective cells of the part.

Healing is therefore brought about by the formation of granulation tissue and its transformation into the proper cells of the part. All wounds heal by granulation, but it is only when the wound forms a free surface that we call it a granulating surface or ulcer. An ulcer is necessarily slower in healing than an aseptic closed wound, because of the greater destruction of surface and difficulty in keeping it aseptic.

General treatment must consist in removing, if possible, any constitutional dyscrasia, such as syphilis, etc., that may be present. The personal hygiene should be carefully looked after. Especially should the quality of the blood be examined, and, if found deficient, its lacking constituents should be replaced. For this purpose many remedies are recommended, among which are the inorganic salts of iron. Better than these I have found the organic salts, such as are found in peptomangan (Gude), extract of red bone marrow, and in bovinine. I have found the last to be of considerable value, internally and locally, in the treatment of ulcers, especially in depressed, anemic systems.

Locally, the first thing we should invariably do, is to get rid of the irritant cause before attempting anything else. Necrosed bone or tissues should be removed. In ulcers of the lower extremities the affected leg should be elevated, as the venous stasis frequently present prevents healing. The next step should be to render the ulcer and surrounding parts thoroughly aseptic by washing and scrubbing with antiseptic solutions. The parts should not only be washed, but well rubbed, as it has frequently been proved that antiseptic solutions washed over a part do not reach the micro-organisms. Besides, the rubbing increases the active circulation of the part. In leg ulcers I have the whole leg rubbed with alcohol before every dressing. The best antiseptic solutions for practical use are mercuric bichlorid 1 to 1000, carbolic acid 1 to 50, potassium permanganate 1 to 500, or 1 to 1000, or a weak solution of formalin. In the further treatment of ulcers it is well to make three types.

1. Healthy ulcer in which there are a great number of minute granulations upon the same level, or slightly higher than the surrounding surface.

2. Exuberant ulcer, or proud flesh, in which the granulations become very large and flabby, at times projecting considerably above the surrounding surface.

3. Indolent ulcer, in which the granulations are almost imperceptible upon the base of the depressed and usually dry ulcer. The edges are usually very hard and irregular in outline.

Efforts should be directed to convert every ulcer into the healthy type, after which it is quickly healed. The exuberant granulations should be removed by means of caustics, as nitrate of silver or cupric sulphate, or by means of scissors until the granulations are smaller and on a level with or only slightly higher than the surrounding surface. The depressed ulcer should be thoroughly curetted and the edges cut in radiating incisions whenever they are hard. The circulation of the surrounding parts should be increased by thorough massage. In this way the ulcer can frequently be made as active as the healthy ulcer.

The healthy ulcer is most quickly healed by the following dressing, which can be used most frequently: After preparing the ulcer as above, I apply gently with a cotton swab a small quantity of a 10 per cent. solution of lactic acid. I then apply a quantity of bovinine, and quickly follow with an iodoform dressing and bandage. The lactic acid causes a slight smarting sensation which soon disappears, as well as the trifling hemorrhage. The action of the lactic acid consists in producing an active hyperemia without causing any loss of tissue. Should the secretion of serum become very free, the bovinine, and possibly the iodoform, must be with-

drawn and soothing powders applied. Bismuth, calomel, zinc oxide, starch, or a combination of these, are among the best. Aristol is also an efficient substitute. Salves and ointments are comparatively of little value in most instances, though occasionally fresh zinc ointment seems to act very beneficially. If the smell of iodoform is objectionable, iodol, aristol, or amitol can be substituted. No one remedy, however, or even a series of remedies are a panacea for every case of ulceration. Each case, on account of surrounding influences, becomes a law unto itself and requires treatment accordingly.

The rationale of the treatment of a typical case, as above given, is as follows: The cleansing of every pocket of the ulcer produces sterility, which the lactic acid further assures. The lactic acid produces an active hyperemia, with an increased number of leucocytes in the part. The bovinine acts as a local nutrient, and the iodoform acts as a sponge, not only in absorbing secretion, but also as a basis for the net work of new vessels and tissues.

Of the numberless remedies that have been used, the following are probably the best: Bovinine has been used locally for some time, especially for leg ulcers. Last fall and winter I determined to give this remedy, which I had used successfully in my office practice, a thorough trial at my surgical clinic at St. Mary's Hospital, where an extensive number of granulating ulcer cases are to be found. I found its effect quite marvelous in the treatment of superficial burns, twenty-four hours often sufficing to entirely restore the epithelial layers.

In all active ulcers its effect was very beneficial, unless the granulation had a tendency to be exuberant, when bovinine produced an excessive secretion of a serofibrinous nature, and considerable irritation, so that it had to be withdrawn for the time being. Upon very indolent ulcers bovinine had but little effect until the ulcer was brought into a more healthy condition by other means. It seems that bovinine is easily assimilated by newly-formed cells, which thereby rapidly increase in number. In addition to this the protein and albumin contained in the food probably has the property of chemotaxis, causing a great increase in the number of leucocytes, some of which are used to build up the tissues. This chemotaxic property, in some cases, becomes so great that the reverse of a beneficial action ensues, yet the healing was greatly hastened when bovinine was used in about 75 per cent. of cases.

Similar to the action of bovinine is that of protonuclein, but the effect produced by this preparation was frequently found to be annihilated at the next dressing. A skin is formed over the ulcer, but at the next dressing it is found to be loose and easily washed away as a thin skin resembling the soft shell of an egg. This is especially true when large surfaces are involved.

Lactic acid is very useful in creating a local hyperemia without causing much, if any, coagulation necrosis. Chancroids heal especially well after cauterizing with lactic acid, followed by the application of calomel.

Iodoform, although of great value in most cases, sometimes produces considerable irritation.

Aristol (thymo iodid) is a good substitute. Bismuth, subnitrate, starch and zinc oxide also fill a useful position. Nitrate of silver, either in the form of a stick or in solutions of various strength, forms, with cupric sulphate, the best chemical agents for the reduction of exuberant granulations.

In very large areas skin-grafting, and similar operations, are often of great value. Dressings of granulating surfaces should be repeated every one, two, or three days, according to the degree of activity of the ulcer and the amount of secretion. The dressing should always be of such a nature that secretions are immediately absorbed, and are not allowed to accumulate upon the granulating surface. Neglect of this precaution frequently results in a constant spreading of the ulcer.

ALEXANDER FREEMAN, a negro, died at Sailors' Snug Harbor, Staten Island, January 22, at the reputed age of 108. He was a native of New York City, and there is reason to believe that the extreme age given is not an exaggeration.—*Boston Medical and Surgical Journal.*

THE MEDICAL EXAMINERS' LAW OF PENNSYLVANIA AS A SPECIMEN OF LEGISLATIVE LEGERDEMAIN.

SILAS UPDEGROVE, M.D.,* PHILADELPHIA.

A bill, prepared by a committee appointed for the purpose by the Medical Society of the State of Pennsylvania, and brought before the General Assembly for its action, orders those who should desire to practice medicine and surgery in the State, to present themselves for examination by a board of examiners before a license to practice should be issued.

When this committee brought the bill before the Legislature, it was met by a bill prepared to represent the Homeopathic Medical Society of Pennsylvania. This bill authorized the creation of an additional board, adapted to the standard of those holding degrees from colleges under the control of homeopaths, and having the homeopathic standard of requirement for the degree.

Here arises the question, Why should we have a State Medical Society and a homeopathic State Medical Society? One answer, according to my ideas, is, Because the homeopath has not the standard of educational qualification necessary for membership, and therefore is excluded, not only from the State Medical Society, but from all organizations, whether of county or State, which are composed of members of the regular medical profession.

In consequence of this exclusion from membership of the societies of the regular medical profession, the homeopath can only have societies of those having his standard of qualification.

We here need, also, the explanation as to why he is declared to be educationally not qualified as a physician, and therefore not qualified for membership of the societies of the regular medical profession.

In order that this may be understood we have simply to bear in mind that, instead of a universal therapeutic formula or method of cure, the educational requirement of the qualified physician has medical science and art as its basis, and it must be observed, also, that medical science has not a universally applicable therapeutic formula or method of cure. The homœopath, on the contrary, adopts as a universal formula, the alleged theory that "like cures like," and makes this the basis of the educational requirement for the degree of Doctor of Medicine.

The educational requirement of one being a direct contradiction of the other, the basis of the educational requirement cannot in both be correct, nor can it, in face of the logic of facts to the contrary, be consistently assumed that those so educated are in both instances educationally qualified to practice medicine. This accounts for the appearance of the homeopath before the General Assembly with a bill to create a board of examiners adapted to his standard of qualification.

So long, however, as the State recognizes an educational requirement, the logical sequence is that the applicant for a license if not educationally competent, must be incompetent; and if not qualified to successfully pass an examination by a competent board, the applicant does not become competent by having a board to examine him, adapted to his standard of qualification. The applicant, who requires a board adapted to his standard, is on a plane with the one who has failed in his examination, and been rejected.

Boards No. 2 and 3 were created, therefore, in order that applicants, who are not educationally qualified to successfully pass an examination by Board No. 1, may yet receive a license to practice; this, too, in face of the fact that the preamble to the law declares: "The safety of the public is endangered by incompetent physicians and surgeons, and due regard for public health and the preservation of human life demands that none but competent and properly qualified physicians and surgeons

*Read before the Northern Medical Association. April 9, 1897.

shall be allowed to practice their profession." This preamble was prepared for the bill, which was formulated by the committee of the State Medical Society, and seems to be the only portion of their bill included in that which became the present law.

To decide whether an applicant for a license is educationally competent or incompetent, it seems logically necessary to have only one board of examiners, and the committee of the State Medical Society formulated a bill to create but one board. Those, however, who receive their degree from a college under the control of so-called sectarians were not prepared to pass such a board, and, in order that the applicants from these colleges should not all be rejected, the present law had to be resorted to.

Another feature in the make-up of this law, in addition to creating three boards of examiners instead of one, will serve still further to show whether, with those who framed the law, the intention was that "none but competent and properly qualified physicians should receive a license." The law declares that "there shall be established a medical council, and that the said council shall be known by the name and style of the Medical Council of Pennsylvania, that the said Medical Council shall have no power, duty or functions, except such powers, duties and functions as pertain to the supervision of the examinations of applicants for licenses to practice medicine and surgery, and to the issuing of licenses to such applicants as have successfully passed the examination of one of the State Boards of Medical Examiners, or presented copies of licenses from other States," etc.

If the intention of those who framed the law had been that none but competent and properly qualified physicians and surgeons should receive a license, this Medical Council should be composed of competent physicians, in order that they might be able to judge of the qualifications of those to whom they should issue a license, or, in fact, the license should be issued by the board of examiners, and but one board should be created. *Per contra,* if they intended to ignore the provision suggested in the preamble, the probability is that the majority to be placed in this Council would consist of those who could not judge of the qualifications of those to whom they should issue a license.

The membership of this Medical Council as authorized to be constituted by the law may enable my hearers to decide as to the intention of those who formulated the law. The law says the Medical Council shall consist of the Lieutenant-Governor, the Attorney-General, the Secretary of Internal Affairs, the Superintendent of Public Instruction, the President of the State Board of Health and Vital Statistics, and the Presidents of the three State Boards of Medical Examiners.

I am not prepared to say that the Lieutenant-Governor, the Attorney-General and the other state officers named by the law are not medical luminaries, but I do say they were not named for a place in this Medical Council because of their eminent medical attainments. Those who displayed so much ingenuity in creating this Medical Council could, no doubt, have accomplished their purpose quite as well by authorizing the Medical Council to consist of one carpenter, one bricklayer, one shoemaker, etc., etc., and, though not so high-sounding, the Medical Council thus constituted could issue the licenses without being disturbed by a knowledge that the license was being issued to those who are not properly qualified. By those who framed the law, the majority of the members of this Medical Council was purposely taken from outside the profession in order that the members might be able to consistently issue a license where an educated physician, able to judge of the qualifications of the applicant, could not do so.

This is a specimen of the legerdemain resorted to in order that those might receive a license, for whom Boards No. 2 and 3 were provided.

An opinion from the Attorney-General should be of value as to whether, so long as the State recognizes an educational requirement, the standard requirement for the degree from all colleges should not, by command of the State, be such as to enable those holding a degree to pass an

examination by a competent board, instead of requiring a board adapted to the standard of an individual college.

Defective educational methods can not be corrected by creating boards of examiners; and, as the present law authorizes a license to be issued to the sectarian, as well as to the regular, and after imposing an unnecessary and very unjust tax upon the regular, at last places him before the public as a physician, on a plane with those who require a board of examiners adapted to the standard of educational requirement of the college from which the degree was received, it is to be hoped the present law may soon be repealed, and that, by authority of the State, a standard for the degree may be demanded of the colleges, such as shall require but one board as examiners and licensers.

COMMUNICATIONS.

RECIPROCITY IN MEDICAL LICENSURE.*

WILLIAM WARREN POTTER, M.D.,† Buffalo, N. Y.

The author first paid tribute to the memory of Dr. Perry H. Millard, of St. Paul, then in an introduction reviewed some of the essential points of progress that had been made in State control of medical practice, and finally considered his subject.

The Problem.—The most important question now to be discusesd pertains to the interstate exchange of licenses, and every friend of State control is interested in establishing this principle. It is one of the objects this confederation is laboring to accomplish, but a most difficult problem for solution. A national registration bureau is desirable where legally qualified and reputable physicians may be recorded—physicians whose names appear on this register to be allowed to pass from State to State in the enjoyment of all privileges pertaining to the practice of medicine. Those chiefly agitating the question of reciprocity, however, are specialists who desire to spend profitable vacations at summer resorts, and do not relish the idea of taking State examinations in the localities chosen for their holiday practice. Another class of men, compelled by circumstances to change residence, is more deserving of sympathy; they take the examinations uncomplainingly. Shall a State require of its own citizens a compliance with its practice-laws while granting to thrifty summer specialists exemption from their operation? As the State laws forbid discrimination against the inhabitants of each, there is both a legal and a moral bar to such exemptions.

Obstacles to Reciprocity.—Equality of standards for admission to the study and practice of medicine is the only enduring basis on which reciprocity can be established. When the several States adopt a uniform level of preliminaries; a uniform period of collegiate training, including uniformity of methods of teaching; and, finally, an absolute similarity in the methods of conducting State examinations and granting licenses—then reciprocity will be equitably and permanently established. It is important for the State Medical Examiners to come to an agreement on these several points, that they may act with intelligence on a common platform. The State imposes a post-graduate examination, and none should be admitted to it who are not holders of diplomas legally obtained from registered and legally recognized colleges. It is understood, of course, that there must be established a uniform system of recognizing and registering medical schools in the several States.

The Solution—Legislative Enactments.—The remedies lie in legislative enact-

* Annual Address at the seventh annual meeting at Philadelphia, May 31, 1897.

† President of the National Confederation of State Medical Examining and Licensing Boards.

ments. Those who most loudly and persistently demand interstate indorsement aim their criticisms at examining boards; whereas these have nothing to do with the question. The statutes in States that have established licensure prohibit interstate exchange, except between such as have equality of standards. The demands of the restless and migratory doctors must be taken to the State legislative halls. Meanwhile the members of this confederation may assist in bringing the matter to a more speedy conclusion by acquainting their legislatures with the difficulties to be overcome, and by urgently recommending the adoption of such amendments to existing laws as will meet and remove the present defects.

Great care must be exercised, however, in the preparation of amendments. The State laws are for the public weal, reciprocity is only for the few. Amendments to existing statutes should be proposed only through State medical examining boards, or State medical societies; they are familiar with defects and best know the remedies needed. When legislatures can be persuaded to turn a deaf ear to all amendments that are proposed outside of official sources it will be a happy day for the friends of state license.

The object of this discussion is to divert further criticism of the delay of reciprocity into the proper channel. If legislators could be made to appreciate the fact that public health interests are involved in the question of State license; that every attempt to weaken the principle is a blow at public sanitation; and that higher standards of medical education mean better health for the people; then, perhaps, it would be easier to obtain and maintain the necessary laws to protect the commonwealths against that kind of ignorance, superstition, or super-refinement that always lurks in the environment of quackery.

CURRENT LITERATURE CONDENSED.

Practical Hints to Medical Men Upon the Preservation of their Own Health.[1]

The author enumerated some thought that among the qualifications necessary for a medical man was the power of concentration, or the power to abstract one's thoughts from the all-previous impressions in order to concentrate them upon the case under consideration. Patients are peculiarly sensitive to any appearance of preoccupation in a physician's mind. This power, with the scarcely less important faculty of commanding one's temper, is a potent factor in the treatment of exacting patients, and is to be attained only by the most steadfast self-control begun in early life. An equable temper thus gained will fit the professional man to cope with cases in the sick room that will try the strongest nature.

These mental states are best attained by simple, healthy out-door life, so far as possible, in constant physical training, and there is no reason why the athletic vigor gained in youth should not remain in midlife, or even old age. A man need not necessarily become stout and short of wind before he has reached fifty. If he does, it is because his physical condition is not fit to grapple with his life work thus late. Assuming that a man is physically sound and has cultivated exercise in youth, it is surprising how easily this can be maintained provided regularity is observed.

It is a mistake to suppose that the busy man requires much exercise. His ordinary day's work is usually enough for him. It is well to practice the habit of sleeping for a few minutes at any time. Men can live only on the interest of their vitality; the principal should be kept intact. For a sound man everything that is good is wholesome, taken at proper times and in proper quantities. The stomach should be trained to understand that within this limit

[1] JOHN W. TEALE, M.A., Oxon, F.R.C.S., *British Medical Journal.* Condensed from the *University Medical Magazine.*

all good food well cooked is legitimate. After thirty a man needs only such an amount of food as will maintain his weight. If too busy to dine, a cup of soup, or a sandwich and a glass of wine is better than a full meal. The fewer the meals the better the health.

Spirits are unnecessary at bed-time or between meals; 365 glasses of whiskey a year, at retiring, is a needless tax on the liver. A fairly healthy man may have a daily cold bath, and the required reaction may be secured and maintained by a fire in the room or a hot bath towel; this, followed by the reasonable use of Indian clubs, will enable him to face any weather. The same underclothing is recommended in all seasons, the only change being in the outer garments. If chilled during a long drive in open air, walk the last mile or two, retaining your wraps to restore the circulation. If called at night for a long ride in a winter's cold, try to have a fire in your room and a light hot meal; with this you may defy the elements. A fire is recommended whenever it can be endured—even in the thundery weather of summer.

No medical man should keep a bad tooth in his head. Disaster is almost sure to follow such a course. The teeth should be regularly inspected by a dentist before going upon a holiday. Every medical man should have his regular outing. While much value is placed upon golf and cycling, fly-fishing is considered by far the best of all out-door sport for the building up of the strength so essential to the overworked physician. The exercise is gentle and varied, the interest great, and is to his mind much better than hurrying half over Europe in a closed railway carriage.

Treatment of Sprains.[2]

As simple a thing as a sprain may seem, it is the most troublesome with which the physician has to do, and he is often at his wits' ends to know just how to proceed.

For the past two years I have ordered rest for the injured member, applications of electricity, once a day for five to seven days, and massage. In most instances, my patient can use the injured joint with freedom at the end of a week. I regard this mixed treatment as the best that has come to my notice; for it gets the patient well in a much shorter time and saves him days of suffering.

The patient presents himself, with a joint highly inflamed, extremely sensitive to the touch, and full of pain. I at once use my Faradic current of tension for a period of thirty minutes. At the end of that time the temperature of the joint is lowered, the pain has disappeared and I can handle it freely. I immediately begin the massage, commencing at the elbow, if the injured joint is the wrist, or the knee, if it is in the ankle, and continue for five minutes. This I order repeated twice during the day, by some member of the family. This is all that I do.

I don't like the bandage, and never use it. It too often excites inflammation in the already congested articulation, which increases the pain and, worst of all, renders your patient very liable indeed to abscess or a stiffened joint. No more unlucky thing could happen to a young physician than to have one of his first cases of sprain result in a stiff joint, or to have an abscess form and discharge for weeks. He will find that there are those who will always remember the incident, and speak of it, too, when it will influence many dollars into some other physician's pocket.

Prevesical Abscess.[3]

O. Q., aged twenty-two years, had a prevesical abscess, evidently produced by aspiration of the bladder. The history of the case is about as follows:

He had gonorrhea at the age of seventeen; was not readily cured, but went into a gleety discharge, which lasted two years, yielding in 1893 to treatment by sounds for dilatation of the urethra. Before this there had been a urinary fistula. On two occasions, when the patient had been unable to pass water he had been compelled to seek relief by catheter in the hands of a physician. In the spring of 1895 he went to the Marine Hospital, where he was given chloroform and some sort of an operation undertaken. Sounds were after-

[2] Q. A. BRIDGES, M.D., Guilford, Me., in *Atlantic Medical Weekly.*

[3] JAMES B. BULLITT, M.D., Louisville, Ky., in *Medical Times.*

wards passed, causing each time hemorrhage and so much pain that he left the hospital two weeks after the operation.

June, 1896, he again had stoppage of urine; he attempted to pass a catheter himself, but unsuccessfully; he then went to Dr. Ferguson, who, failing likewise to get into the bladder, took the patient to Dr. H. H. Grant, who aspirated the bladder suprapubically. Aspiration was repeated again within twenty-four hours; the patient does not know what else was done to him; but after the first aspiration he had pain continuously in the bladder region, accompanied by chills and fever. June 24 he was removed to the city hospital, where sounds were used up to July 1.

He was found to be extremely ill, very weak, and evidently not very far from death. There was sweating, rigors, and a temperature indicative of the formation of pus. On examination there was found a dullness in the bladder region extending to the right side and upward to the umbilicus. It was believed that this dullness was caused by an accumulation of pus, and an operation was undertaken July 4 for its liberation.

An incision was made as though for suprapubic cystotomy; without going very far a large collection of pus was opened into, two or three pints of very foul pus being liberated. The condition found was a curious one; evidently pus had begun to form at the side of aspiration, and as the abscess increased in size the bladder was dissected away from the pubic arch and was pushed backward and upward toward the umbilicus. A sound was passed into the bladder and then one finger inserted into the rectum. The neck of the bladder, very much elongated, and with the sound in it, was clearly felt between the finger in the rectum and the finger of the other hand inserted into the abdominal wound. The pus had burrowed deep into the pelvis on either side of the rectum.

I attempted drainage anteriorly for a few days, but owing to the large quantity of pus which had burrowed so deep toward the rectum upon either side, I finally decided to take a pair of blunt forceps and pass them through the anterior wound, carrying them down by the side of the neck of the bladder and out to just one side of the rectum and drain through this lower opening with a tube, making thus thorough drainage. The tube remained *in situ* three weeks, when it was removed. Five days ago the anterior wound closed and the young man is now perfectly well. He has no difficulty in passing his urine, and he will have no further trouble.

I had a somewhat similar case recently after a suprapubic cystotomy for a large soft stone, in which I used continuous irrigation and drainage by intermittent siphonage, the principle of the siphonage pump being the suction, keeping the cavity clean and sweet. I think this method might have been employed to advantage in Dr. Bullitt's case. This method of drainage might have hastened recovery. In my case the continuous irrigation was kept up for ten days, the tube being taken out several times in the interim, and each time I found the prevesical space would fill up with pus, etc., and it would have to be replaced. The patient made a good recovery.

The Origin of Uric Acid.[4]

Ever since physicians, aided by physiological chemists, learned to recognize the existence of uric acid as a factor associated with, and presumably causing, certain diseases, such as gout, the great question of its source of production has been before the profession. Quite recently it has become more or less the fashion to regard uric acid as a product manufactured exclusively outside the body and as introduced ready made in certain articles of diet, notably meat.

It is odd, to say the least of it, that this view should have obtained such general acceptation, seeing that not even those who are responsible for its inception are able to state that they have ever discovered uric acid in the blood or tissues of healthy animals, and the evidence all goes to prove that uric acid is never a normal constituent of the blood or tissues of the healthy animal.

These observers base their views on the fact that bodies of the xanthin class are

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[4] Editorial in *Medical Press and Circular.*

discoverable in the tissues, and these, they profess, on somewhat inadequate grounds, to regard as the equivalents of uric acid. This question crops up once more anent the treatment of gout by a diet exclusively composed of red meat, associated with the daily ingestion of large quantities of hot water.

It may be conceded that great benefit attends this treatment, at any rate in certain cases of gouty arthritis, but this does not help to solve the problem of its action, though it must be singularly disconcerting to those who regard the disease as one directly due to the excessive ingestion of the acid in meat. There is reason to believe that gout owes its causation to more complex factors than its students are apt to believe.

It is impossible to gainsay the evidence in favor of the tendency of a too starchy diet to favor the formation of uric acid, an influence which has been ascribed to the affinity of amylaceous food for oxygen, thereby interfering with the due oxidation of the nitrogenous ingesta. It may well be that it is the interaction of the various articles of diet that promotes the formation of the peccant material, though how these chemical changes come to pass is a question which still awaits elucidation at the hands of the physiologist.

Judging by the results obtained by practitioners of both schools, there must be some truth underlying both hypotheses, and it remains to eliminate the perplexities and to arrive at a proper understanding of the chemico-physiologic processes which govern the production and absorption of the acid.

The problem is one of the greatest interest, but it would be rash to predict that we are within measurable distance of its elucidation.

Early Recognition and Treatment of Defective Development of Children.[5]

The etiology of idiocy is always a mooted question. Referring to heredity and disease as causes of insanity, and of the difference in individuals in the same families, he said a lack of information or understanding of a child's physical condition often caused a wrong judgment. Thus a slight defect in sight or hearing, which the child does not recognize in being only the judge of himself, will cause it to appear dull, stupid, or even idiotic.

One of the saddest things is a defective child placed in the competition of a large school, where, without fault over which he has control, or even recognizes, he loses place, and is finally ranked among those younger.

A defective child should be trained with a definite view of attaining the possible, capacity always being borne in mind. More serious than the development of mind is that of character. The study of such children throws a strong light on the training of all children. Severity is wrong. All previous wrong-doing should be disregarded, and the present effort be an endeavor to counteract evil tendencies. Defective children should not be held responsible for acts caused by the condition.

[5] Dr. Louis F. Bishop, of New York, before the American Medical Association.

Nothing but Luck.

Hard Luck is almost a synonym for laziness.

Good Luck is the twin brother of hard work.

Luck walks, while work rides in a carriage.

Luck pictures a dollar, while work earns it.

Luck dreams of a home, but work builds one.

To trust to Luck is like fishing with a hookless line.

Luck is a disease for which hard work is the only remedy.

Luck longs for a dinner, while labor goes out and earns one.

Luck goes barefooted, while work never lacks for a pair of shoes.

Luck is a weather vane with the distinguishing points broken off.

The man who relies on Luck is lucky if he keeps out of the poorhouse.

Wear your learning, like your watch, in a private pocket; and do not pull it out and strike it, merely to show that you have one. If you are asked what o'clock it is, tell it, but do not proclaim it hourly and unasked, like the watchman.—*Chesterfield.*

1853-1897.

THE MEDICAL AND SURGICAL REPORTER

Issued Every Saturday.

Editorial and Publication Offices, 1026 Arch Street, Philadelphia, Pa.

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THE BUTLER PUBLISHING COMPANY, P. O. BOX 843
H. H. KYNETT, M.D., MANAGER — WILLIAM H. BURR, M.D., ASSOCIATE MANAGER

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PHILADELPHIA, SATURDAY, JUNE 19, 1897.

EDITORIAL.

AFTERMATH OF THE AMERICAN MEDICAL ASSOCIATION.

The gathering of several thousand members of any profession leaves an impression which can not altogether be accounted for by the transactions of the men formally assembled. The spirit of the American Medical Association is in itself an interesting development of a democratic country. The influence of the Association is tremendous, yet it may be said to have no standard of membership, and no specific object. In attempting to analyze the paradox, failure is inevitable, as it is always when we attempt to put into words the rationale of a large concourse of human beings.

An association of medical men could scarcely be effected on broader grounds. Every physician in good standing in the regular profession is eligible to membership on complying with conditions so simple as to amount to little more than registration and payment of dues.

The aims of the association are the advancement of the welfare of the average physician, scientifically and otherwise. In consistently carrying out such a broad policy, mediocrity can not always be avoided, but the result, from the standpoint of the average man for whom the association exists, is satisfactory and dignified.

There is only one point in the policy of the American Medical Association which The REPORTER would criticise adversely, and even this disagreement is one of method, not of principle. We regard the attempt to codify any strictly ethical or moral matter as utterly futile. Law should be the attempt, not to make a bad man good, but to protect society from the overt acts of the bad man. A written or printed code of ethics can never be so accurately worded as to restrain a shyster nor to guide a man who wishes to conform to the dictum of his profession, but who lacks the instinct of good taste and propriety. On the other hand, the man who could satisfactorily use a code, needs no such assistance.

The association has never been so lavishly entertained as at Philadelphia, and we believe that a local contemporary has voiced the sentiment of the great majority of the local profession in saying that the city had no axe to grind, no candidate for office, no favorite meeting-place, no pet scheme of management. Yet we have to regret, and, in no sense of responsibility, to apologize for, the attempt of a few men to make political capital out of what should have been the purest hospitality.

One thing could not but impress the most impartial observer at the various luncheons and other entertainments of the American Medical Association. Although the dues paid by members, even if applied in such a way, did not begin to represent the value of the entertainment offered, not a few of the guests and some of the ladies accompanying them acted as if they were at a bargain counter, elbowing their neighbors for a first serving or a choice bit of food, or complaining of some commission or omission on the part of their entertainers. Yet after all, such criticism was deserved by the scantiest minority of those in attendance, and, for the most part, one could well be proud of belonging to an association which makes no pretense to being select.

One of the noteworthy features of the American Medical Association is the number of satellite societies which its mass has attracted. The medical editors, the examining boards, the colleges, were all represented by independent societies, and the Academy of Medicine held an important two days' session before the American Medical Association assembled. It is rather a joke on the members of the last-named organization that, with all their college education, a glaring error in grammatical construction should have occurred on the first page of their announcement.

Nothing could have been more timely than the recent plea of The REPORTER for greater care in the preparation of programs. Some of the sections published lists of papers three times so long as could have been presented in the utmost allowance of time at their disposal. For the man intending to devote his attention to one section, this meant no greater inconvenience than disappointment at not hearing some papers in which his interest had been aroused and fatigue at having to listen to some which were utterly unworthy of an audience. It was quite impossible for one whose time was divided to make plans to hear any particular discussion or paper. It was openly charged by many in attendance that some of the papers had not even been written, their authors (?) merely wishing to see their names on the program.

Different men afforded the most diverse examples of methods. Some sacrificed all personal considerations in order to save the time of the section and allow other papers to be presented. Others gesticulated over platitudes, without interest to any progressive physician, not only without regard to courtesy, but even in defiance of time limits set by joint agreement. We would repeat the recommendation that every society should have an editorial committee which should reject, curtail or abstract every paper not of suitable length and interest, with the same impartiality as if it were presented for publication.

And yet, with all the opportunities for criticism, what a grand education it is to meet with one's professional associates of many latitudes and longitudes, of both sexes and all kinds! And, with all our shortcomings as a profession, how much there is to make us feel the benefits of mutual support and to give us a modest but enthusiastic pride in being American physicians!

ABSTRACTS.

MEDICAL DIAGNOSIS BASED ON EYE SYMPTOMS.*

The eyes are so often involved in various diseases affecting other parts of the body that a knowledge of the diagnostic significance of certain eye symptoms may prove of much value to the general practitioner. The reasons why the eye participates in other affections are various. On the one hand this organ is well supplied with blood-vessels, and hence alterations in the blood, or infectious material floating in it, or emboli carried by the current, as well as disease of the blood vessels themselves, may all lead to morbid manifestations of the eye. The eye, too, is intimately dependent on the nervous system, not merely for the highly specialized sensations of vision, but also for the movements of the eyeball, disturbances of which are so easily observed. Moreover, in no other part of the body is there such a variety of tissues in so small a space as in the eyeball; hence the eye is not merely a "mirror of the soul," as the poet expresses it, but also a very important index of general pathology.

Inspection of the lids shows at once the least trace of puffiness or edema so readily observed in this loose tissue. This condition, if not one-sided and not dependent upon any inflammation of the eye or orbit, may suggest arsenical poisoning or the beginning of dropsy due to kidney disease. Bloody suffusion under the skin of the lids, if not due to injury, is indicative of scurvy or some form of the diseases classed under the head of purpura.

The conjunctiva presents no diseases of interest from our point of view, but the tarsal surface of the lid is an excellent spot for observing the color of the blood.

Anemia is readily detected upon finding the lower portion of the conjunctiva of the lower lid pale. The transparency of the conjunctiva of the eyeball permits an early diagnosis of jaundice. Hemorrhages are easily seen in this area and may be due to some violent effort, as from severe cough, especially whooping-cough, if not accounted for by local violence, if no satisfactory explanation can be given for the bursting of the conjunctival blood-vessels, a suspicious fragility of their walls, often indicative of arterio-sclerosis, must be assumed.

In the cornea there occurs a certain form of disease in children almost definitely indicative of inherited syphilis. It is the deep form of inflammation in which the cornea appears almost like ground glass and in which numerous small blood-vessels branching at sharp angles can be seen with strong lenses. While the disease may be due to tuberculosis of the ciliary body, it is undoubtedly dependent upon inherited syphilis in probably more than ninety per cent. of all instances. There is only one other form of keratitis which permits a diagnostic inference. A superficial opacity appearing in the form of a grayish streak with lateral branches has been described as dependent upon malaria. Still this same disease may occur also in other conditions; it sometimes follows herpes vesicles. Herpes vesicles when appearing upon the cornea are probably always connected with some form of inflammation of the lower respiratory organs.

Plastic iritis, whether one-sided or double-sided, and especially when of but moderate severity, must raise a suspicion of syphilis. It may be an early manifestation or it is sometimes a late localization, and in the latter case accompanied by the presence of small nodules, presumably gummata. But syphilis is not the only cause of iritis. In some instances it is evidently a rheumatic manifestation as indicated by the history. Plastic iritis may or may not be dependent upon diabetes, but in a large proportion of instances iritis is not the result of morbid conditions in other parts of the body, but purely local in significance.

* Dr. H. Gradle, Chicago, in *Medicine.*

The size and play of the pupil permit important deductions regarding the nervous system. It is necessary, however, in the case of any pupillary anomaly to determine whether it is not due in the first place to ocular causes. Inflammation of the cornea and especially of the iris tends to contract the pupil. Loss of vision, however, if accompanied by inflammatory redness of the front of the eyeball in the dilated pupil, is strongly indicative of glaucoma. Any disease of the interior of the eye which reduces vision allows the pupil to dilate.

In studying the pupil we must inquire closely whether its play has not been interfered with by the local use of drugs, as atropin or any of its substitutes, as well as myotics like eserin. Dilatation of the pupil not due to local causes indicates paralysis of the third nerve. Contraction, on the other hand, may depend on paralysis of the cervical sympathetic nerve. In the case of the Argyll-Robertson phenomenon the pupil, moderately narrow, is entirely immobile to light, but contracts slightly with efforts at convergence. While we do not know exactly how this condition is produced, it is known that it is connected with spinal disease and is not uncommon in the early stages of general paresis.

Marked contraction of both pupils occurs during opium stupor, and serves to distinguish this condition from coma, in which the pupils are dilated. They are contracted during undisturbed ether or chloroform narcosis, and when dilated under these circumstances means consciousness of the pain inflicted or impending asphyxia. Any cerebral disturbances attended with brain pressure usually cause dilated pupil, while diffuse cerebral inflammations, like meningitis prior to the pressure stage, contracts the pupils.

Pupillary inequality is very common in various forms of mental diseases, particularly so in the early stages of paresis. We speak of inequality then particularly when the dilatation of one or the contraction of the other is not very pronounced. Paralysis of the accommodative faculty without involvement of the pupil is a very striking and frequent sequel of diphtheria.

Changes in the transparency of the lens are as a rule due to intra-ocular conditions. However, when a cataract appears in middle-aged people without previous ocular lesions, it is well to suspect and examine for diabetes.

Many diagnostic inferences may be based upon the findings with the ophthalmoscope. Choroiditis cannot be referred to any general condition with great certainty. Syphilis is often the cause but by no means always, but may be suspected especially in those cases where there are very delicate opacities in the vitreous. Enlargement and pulsation of the retinal arteries has often been seen in ophthalmic goitre.

Unusual tortuosity of the arteries suggests arterio-sclerosis, a suspicion confirmed when hemorrhages occur along the arteries. Isolated hemorrhages with perfect integrity of the fundus, however, suggest frailty of the vessels and are often an important forerunner of cerebral apoplexy.

There are two forms of retinitis which not rarely enable the oculist to anticipate the general practitioner in diagnosis. The first of these is albuminuric retinitis. In its typical form it consists of whitish patches in the retina with more or less cloudiness around the papilla and with smaller white specks arranged in a star-shaped fashion around the macula.

Quite typical, too, is the affection of the retina in diabetes. Here the failure of the sight is accounted for by the existence of small circular spots of white infiltration arranged in groups throughout the fundus, some of the spots being surrounded by a pigmented border.

The most frequent intracranial cause of choked disc or optic neuritis in any form is tumors of the brain. Not so frequent is its occurrence in other forms of intracranial disease attended by increased pressure, as hydrocephalus and localized effusions. Optic neuritis of any severe grade is followed by more or less atrophy of the nerve. The majority of instances of atrophy are, however, the result of spinal disease, mainly tabes. It may be the very first symptom of this affection preceding ataxia by many years.

Retro-bulbar neuritis is often due to chronic poisoning, chiefly tobacco or alco-

hol, or the influence of the two combined. This affection is always double-sided. Lead too may cause this trouble, although it produces other lesions perhaps as often —a visible neuritis or an atrophy of the optic nerve. One-sided blindness for which we can find no intra-ocular cause, can only be of hysterical origin. We can suspect hysteria especially when the pupillary reaction of the weak eye is normal. In typical hysterical blindness the field of vision is decidedly contracted especially when tested with colors, and far more so for blue than for red or green, which latter is never the case in actual disease of the optic nerve.

SMOKERS' CANCER.*

Though the existence of this disease has been denied by contemporary surgeons, or, at least, has not been deemed worthy of much notice by modern writers, Dr. Cortyl, who has observed a good many cases in the northern districts of France, states, in *La Presse Medicale*, that it occurs pretty frequently. According to this author, Bouisson indicated tobacco as the cause of cancer of the lips and nasal fossæ, and Guermonprez has insisted on the causative influence of the use of the pipe, in producing neoplasms of the tongue and tonsils.

Smokers' cancer, wherever found, is almost always a lobulated epithelioma, sometimes composed of mucous and at other times of horny tissue. It extends by continuity or reaches the glands by the lymphatic route. Its etiology is unknown. The predisposing cause of buccal cancer depends on a general diathesis, the herpetism of Gigot-Suard, rather than on heredity, the importance of which, in such cases, is founded on a very limited number of observations. The determining cause is very frequently the repeated irritation of tobacco, acting on the same spot in the mucous membrane. Cancer of the mouth shows itself particularly among smokers who pay no attention to the cleaning of the mouth, who smoke short clay pipes to the bottom, and who use tobacco of inferior quality.

These neoplasms attack particularly the under lip or that part of the tongue which is regularly brought into contact with the overheated stem of the pipe and is stained with a kind of tobacco juice or rather an acrid, irritating empyreumatic matter. They also grow at the base of the tongue and on the tonsils of smokers, who, having lost their teeth, hold the stem of the pipe deep in the mouth, between the tongue and the soft palate. The weight of a pipe, which is allowed to press steadily on the same spot, as can be shown by the characteristic wearing down of the teeth on one side, is itself a source of irritation of the lip and explains the localization of the disease. In all cases the cancer is found on that side of the mouth on which the smoker is accustomed to hold his pipe.

The propagation of cancer by contagion, which has been much discussed of late, would not appear to be impossible in the matter of tumors of the mouth. If a smoker, predisposed by the herpetic diathesis, debilitated by alcohol or labor, uses a pipe belonging to a man affected with cancroid of the lip, or drinks in a public house from a glass not properly cleaned, often notched at the rim and perhaps infected by a person who has just used it, it would not be surprising if he contracted this disease by contagion.

When these cancroids are situated on the lip and are submitted to an early operation the prognosis is relatively favorable; but quite the reverse when they attack the tongue or the tonsil. The disease recurs more rapidly and more frequently when the smoker does not give up the use of tobacco for good.

Treatment by the injection of chemical or organic liquids has, so far, not yielded a satisfactory result; the mental effects resulting from this treatment will, however,

*Editorial in *Canadian Journal of Medicine and Surgery.*

induce practitioners to use, in cases which are not suitable for a cutting operation, interstitial injections of alcohol, which are less dangerous and painful than any other agents of this class. The employment of caustics ought to be abandoned in such cases, as it takes a long time, is subject to contingencies, and is always very painful.

Surgical treatment is the only method which can be recommended. The surgeon should perform an early operation, cutting well outside the diseased tissues and removing everything which provokes suspicion, or else should not operate at all.

When an operation has been performed, the use of a retention catheter, introduced through the nostrils, tends to ward off an attack of pneumonia, which often complicates surgical procedures done on the anterior portion of the digestive tract.

Smokers, predisposed by heredity or herpetism, ought to be careful to secure a clean condition of the mouth. They should also use a narghile or a wooden or meerschaum pipe with an amber mouthpiece; they should not smoke a pipe down to the bottom, and should avoid acrid tobacco. If in addition to these personal precautions preventive measures were put into operation, such as the supervision of the rinsing of glasses in hotels and saloons, we might expect to see a gradual reduction in the frequency of smokers' cancer.

ACETANILID POISONING IN A NEWLY-BORN INFANT: ABSORPTION FROM THE UMBILICUS.*

The profession is fully informed of the utility and of the untoward effects of the coal tar antipyretics used internally, acetanilid being generally considered the most dangerous. Occasionally, especially in young subjects, cyanosis, grave cardiac depression, and prolonged prostration follow their administration, and the uncertain, treacherous nature of these drugs has very much restricted their use.

At present there is very little known of the possibility of constitutional symptoms from the absorption of the coal tar antipyretics from raw, inflamed, or granulating surfaces. In view of the frequent use of acetanilid as an antiseptic dusting powder, and the practically unlimited amounts which are habitually sprinkled upon fresh wounds, the following case is submitted with the idea of suggesting that the employment of this drug upon raw or granulating surfaces of young infants is accompanied by considerable danger of toxic symptoms from absorption.

The patient was the second child of a physician, born April 20, 1896, after a normal labor, and showed every evidence of a perfect development and vigorous physique. The umbilical cord was detached on the seventh day, and as there was some discharge upon the stump, the father dusted the navel with crystals of acetanilid, using about sixty grains of the drug once. Up to the end of the ninth day the child throve in the most satisfactory way, but during the following night it seemed languid and would not nurse. About 7 A.M. April 30, the father examined the baby, and noticed that it was very cyanotic, presenting a very vivid contrast to its usual color, the child being of a blonde, exceedingly fair complexion.

In addition to this lividity, the baby had a very pinched expression, was weak, apathetic, breathing rapidly. The cyanosis steadily increased, and I saw the child at noon. Its face, lips, fingers, toes, in fact the whole of the skin and visible mucosa were of a dark blue color, like a subject in the most extreme stage of asphyxia. The lividity was intensified by the child's occasional crying. The rectal temperature was 99°, respiration, 60, pulse, quick and weak.

The heart was carefully auscultated. Its action was rapid and feeble, but the valvular sounds were clear, with no sus-

* IRVING M. SNOW, M.D., Clinical Professor of Diseases of Children, University of Buffalo, in Archives of Pediatrics.

picion of a murmur at the apex or at the aortic or pulmonary cartilages. Air entered all parts of the lungs. There were no râles or areas of silence. The cord had fallen off three days before, and the umbilical hollow was filled with acetanilid. This powder was wiped off, and beneath was a dry, granulating surface, showing no evidence of inflammation or suppuration.

The pupils were normal, there was no sweating, and the child was conscious. The vigilant grandmother had kept the extremities warm by wrapping them in hot flannels. Our patient seemed to be in an exceedingly perilous condition. Poisoning from acetanilid was diagnosed, and oxygen, whiskey, and digitalis were administered. No improvement occurred for about ten hours, the child being limp, apathetic, too exhausted to nurse. Late in the evening it swallowed a little breast milk, and after twenty-four hours slowly rallied.

The severity of the toxemia may be inferred by the rapid emaciation, there being a loss of one pound, fourteen per cent. of the weight, in three days. Not until the fourth day did the child regain its former strength and disposition. In all probability if the absorption of the drug had continued the little patient would have succumbed.

The long interval, sixty hours, between the application of the acetanilid and the appearance of symptoms was perhaps owing to the relative insolubility of acetanilid in most fluid.

I have collected several cases of acetanilid poisoning in children where the drug was used externally as an antiseptic. The symptoms are identical with those seen after an overdose of the remedy given internally, viz.: cyanosis and intense depression of cardiac and respiratory apparatus, as described in the classical case of Marechaux.

With some cases, after the use of the drug, absorption was quite rapid. In others, several days elapsed before the characteristic lividity and depression were manifest. None of the cases developed eruptions or urinary symptoms.

The issue of acetanilid poisoning is uncertain. Although a few deaths are recorded, yet recovery has occurred in the majority of cases, showing that the symptoms are more threatening than dangerous.

Dr. Briggs records that after the circumcision of a boy a week old, acetanilid was applied locally. In twenty-four hours there appeared profound general cyanosis, pinched expression, and coldness of extremities. Removal of the drug and artificial heat caused the disappearance of these serious symptoms.

Dr. Rook had two disastrous experiences.

A baby four days old, with erythematous inflammation of the skin, nates, thigh, and groin. A powder of equal parts of acetanilid and bismuth was applied. During the afternoon and evening this dressing was dusted on the inflamed area several times. On the following morning the baby was deeply cyanosed, dying of collapse a few hours later.

Not realizing that the fatality was due to acetanilid poisoning, Dr. Rook used acetanilid upon an infant two days old, suffering from erythema of the thighs and nates. The application was made at 10 P.M.; next morning the child developed intense cyanosis; twenty-four hours later full recovery took place.

Dr. R. C. Newton employed acetanilid as a local application in a girl of four, suffering from an ulceration on the right hand. This plan of dressing was used five times in nine days, amount of drug twenty to forty grains. The arm was dressed on Saturday and Sunday. Four hours later the child complained of pain in the bowels, was faint and sick, and passed into a state bordering on collapse; the eyes were glazed and staring, the face cyanotic; the pulse was 160, the respirations 32. The child laid motionless on its back for several hours; then, after vomiting and a fecal evacuation, fell asleep, and awoke as well as ever. As the cause of the symptoms was not appreciated, the acetanilid was used again on Tuesday and Thursday. After the last application, the child complained of precordial distress and of fatigue, then brightened up, and some hours afterward sank

into profound collapse, and was thought to be dying. Under the use of stimulants the patient slowly improved.

Dr. Morton, who has a very large experience with acetanilid as an antiseptic, says that if a very large surface be exposed to the action of the pure drug, toxic symptoms may occur, and advises that the drug be employed diluted.

He quotes the history of an infant of fourteen months, whose hip he excised for tuberculosis, using first iodoform gauze, and afterwards acetanilid gauze (10 per cent.), as a packing. Four hours later, the temperature dropped five degrees, with great pallor and a feeble pulse. On the removal of the gauze the temperature arose, and the child rallied.

Although the advantages of acetanilid in surgery appear to be considerable, it being inexpensive, odorless, and having a strong, germicidal action, it is certain that either from idiosyncrasy, impurity of the preparation, or unexplainable ease of absorption, profound toxic symptoms may develop from the drug entering the blood from fresh or granulating wounds.

From the cases quoted, it is evident that acetanilid, undiluted, should be discarded in the surgery of young children, and is especially dangerous when used as a dressing for the umbilicus of the newly-born. If caution be not exercised, the surgeon, on some more or less important occasion, may have the results of his skill offset by poisoning from his antiseptic.

SOCIETY REPORTS.

NORTHERN MEDICAL ASSOCIATION.

A regular meeting of the Northern Medical Association was held April 9, 1897, the president, DR. SCHWENK, in the chair, at which DR. SILAS UPDEGROVE read a paper entitled

The Medical Examiners' Law of Pennsylvania as a Specimen of Legislative Legerdemain.

(See page 782.)

DISCUSSION.

At the conclusion of his paper Dr. Updegrove exhibited a postal card which had been prepared by the State Medical Society and sent to every member of both houses in Harrisburg, advocating the passage of the present law. Dr. Updegrove recalled the action of the Philadelphia County Medical Society in their advocacy of the law, and stated that it was the only county medical society in the State mentioned as in favor of the bill. He criticized this action and held the county society responsible for the mischief entailed by the passage of the act.

DR. HENRY RIHL agreed with the speaker in his opinion of the various irregular schools of medicine, but had a different opinion as to the facility of obviating the difficulty. There are a great many necessary evils, such as diphtheria, which we would like to get rid of, but we cannot do it by mere resolution. Many of our State legislators are advocates of homeopathy. It is the same principle as the belief in freedom of religious opinions. Different views are entertained by the respective advocates, and each believes himself right.

Dr. Rihl believed that much might have been accomplished in the beginning of this movement, but the matter of changing it now was a more difficult question.

DR. SHRINER said that he was not in love either with the act or homeopathy. The act reminded him of the boy's definition of ridiculous —looking in a dark cellar for a black cat that wasn't there. One of the legislators, who was himself a supporter of the regular school, resisted all attempts of narrowness in medical legislation which would exclude the other sects; he believed in permitting liberty of opinion and of practice.

Dr. Shriner advocated a change in the composition of the board and frequent examinations of those who taught medicine. The friends of homeopathy are powerful, and quite naturally will resist with all their strength any legislative action which could endanger them. The law is a quaint commentary upon the positions of the institutions in the commonwealth which are legally chartered to confer degrees and declare their graduates competent men while the State steps in and denies their competency.

DR. RIHL thought many were led into the ranks of the irregulars from a sense of greed—that profitable callings awaited them. He also objected strongly to the State doubting the qualifications of those men who were graduated by duly chartered institutions which, if they were not of a sufficient standard, should not exist at all.

DR. HENRY PAIST was in full sympathy with

the previous speakers. He recalled reading a book of Mark Twain's, a blood-thirsty story in which the plots and counterplots were worked up to the highest pitch and then the author suddenly closed by confessing his inability to straighten matters out. The situation under discussion reminded him of that book. Homeopathy cannot be overcome by legislation. Its advocates, actively prejudiced, take a decided part in the struggle, and they are men in many cases of sound business sense and judgment.

The great hold of homeopathy resides in the fact that consistency to their principles is practically unknown—that "straight" homeopathy is extremely rare. The present state of the problem is merely a transitory one; there is a gradual tendency to the coalescing of all systems.

DR. COLEY said that he believed much good had resulted from the law in spite of the manifest evils. For instance, the large percentage of failures protected the State against this number of incompetents. The authorities of the institutions within the State did not resent the affront offered them by reason of compelling their graduates to pass the board, for the very excellent reason that they believed it would be a comparatively easy matter for their men who, by coming through with flying colors, would add to their institution's lustre when their records were compared with those of the men from institutions in sister States. All men should be compelled to pass, show evidence of satisfactory preliminary education, and passing in common the essential and fundamental branches such as anatomy, physiology, chemistry, etc. The materia medica, and therapeutics might differ, but all practitioners should possess fundamental acquirements of a sufficiently high order.

DR. UPDEGROVE closed the discussion by remarking in reply to Dr. Coley that if the law authorized one board rather than three, he would agree with Dr. Coley, but as it was there was now one law for competent and another for incompetent men. His objection to homeopathy was based upon the fact that it advocated "a universal therapeutic formula which did not exist." He did not believe in the possibility of getting rid of homeopathy by legislation. Such a step is impracticable, but he did think that by means of an injunction being demanded and a test case fairly made that much could be accomplished. The association as, being over fifty years old, and older than the county society, should take the matter in hand and present it before the county society.

It was then decided that at a later meeting the matter should be acted upon.

At the regular stated meeting of the Northern Medical Association held on Friday evening, April 30, DR. JOHN B. ROBERTS gave an interesting talk upon

Some Cases of Cosmetic Surgery of the Face.

He exhibited a number of photographs of the cases before and after the operation and detailed at length the operative procedure.

At the regular meeting, held on May 14, DR. L. BREWER HALL read a paper upon

The Lachrymal Apparatus.

(See page 769.)

Discussion followed.

At the meeting of the association, held on May 28, DR. A. A. ESHNER read a paper upon

Traumatic Hysteria.

(See page 773.)

and DR. SAMUEL WOLFE followed with

The Nervous System in Heart Disorders.

(See page 777.)

A general discussion followed.

At a meeting of the Northern Medical Association, held on the evening of June 11, 1897, DR. FREDERIC KRAUSS presented a paper upon

Some Methods of Healing Granulating Surfaces.

(See page 779.)

PERISCOPE.

NEWS AND MISCELLANY.

Shepherd brought before the Montreal meeting of the Canadian Medical Association (August, 1896) the first case of **excision of the scapula** recorded in that country. The patient, a married woman of 33, had for six months suffered from intermittent severe pain in the left shoulder, extending down the arm. It was treated as rheumatic till a week before admission, when a want of symmetry between the two shoulders was noticed, which led to the discovery of a firm, non-fluctuating tumor, the size of a closed fist, fixed to the left scapula below the spine; it was confined to the infra-spinous fossa, was not tender, and moved with the scapula. An incision was made from the acromion to the superior angle of the scapula, and continued down the posterior border to the inferior angle. The trapezius, levator anguli scapulæ, and rhomboids were now cut away; there was free bleeding from the muscular branches of the posterior scapular artery. A second horizontal incision was made at the base of the vertical one in order to facilitate the excision of the lower end of the bone. The tip of the acromion being quite free from disease was sawn through, leaving its mus-

cles attached. The joint was opened, the end of the coracoid process cut through with forceps, and the scapula with the tumor removed. But little blood was lost during the operation, which was followed by considerable oozing, for which a rubber drainage-tube was inserted. The wound healed by first intention, and the patient made an uninterrupted recovery, leaving the hospital in three weeks after the operation. The tumor was found to be a myeloid sarcoma confined to the intra-spinous fossa.—*British Med. Journal.*

The recent death of Dr. Manser from pneumonia in Bombay has emphasized a point that is liable to be overlooked amid the devastations of a raging epidemic. He exhibited none of the ordinary signs of bubonic plague, but a bacteriologic examination proved beyond a doubt that his death was caused by the specific organism of bubonic plague. A similar result was obtained in three other cases where hospital patients were reported to have died from pneumonia. In view of these facts, the mortality returns of all places where plague has been epidemic will have to be read by the statistician in a fresh light. In Bombay, for instance, there has been of late an enormous increase in the official list of deaths published under the heading of "respiratory diseases." It may fairly be assumed that a proportion of such cases, although diagnosed as pneumonia, fever, or bronchitis, were really due to bubonic plague of an atypical or ambulant form. The danger of non-recognition of so virulent and eminently contagious a disease is sufficiently obvious to require no more than passing mention.. The fact of such an occurrence has long been known to medical writers upon the subject, but it may be doubted if it has gained anything like wide recognition. The reason for this local manifestation offers a problem of great interest and importance to the scientific medical investigator.—*Med. Press.*

The question whether the **Roentgen rays exert any influence on bacterial life** is of considerable interest, and conclusive evidence on at least a part of the subject seems to have been arrived at by Dr. J. Brunton Blaikie, President of the Edinburgh Royal Medical Society. His experiments (*Scottish Medical and Surgical Journal*) were as follows: Portions of glycerin agar having been placed in small boxes of aluminum, which is more transparent to the rays than glass, they were sterilized and inoculated with streak cultures of the tubercle bacillus. At the same time four healthy guinea-pigs were inoculated with twice the minimum lethal dose of diphtheria toxin, and the remainder of the diphtheria toxin was placed in another aluminum box. Three of the boxes containing tubercle cultures, two of the guinea-pigs, and the box with the toxin, were placed under the full influence of the rays generated by a 4-inch spark coil and a good focus Crookes s tube. It was necessary to stop the current occasionally, as otherwise there would have been danger of injuring the tube, and on this account, although the subjects of experiment were placed immediately under the Crookes's tube for a working day of about thirteen hours, they received only eight hours of actual exposure to the rays. Next morning two more guinea-pigs were inoculated with the toxin which had been subjected to the rays. The following was the result of the action of the rays on these guinea-pigs: two that were exposed to the rays after inoculation with twice a lethal dose of toxin lived respectively for 101 and 55 hours after inoculation. Two that were inoculated with twice a lethal dose of toxin, but not exposed to the rays, lived respectively for 120 and 76 hours after inoculation. Two that were inoculated with five times a lethal dose of toxin which had been subjected to the rays lived respectively 45 and 60 hours. From the above results it is seen that the guinea-pigs subjected to the rays lived actually a shorter time than the others, and that the toxin through which the rays passed did not lose its lethal properties. All the guinea-pigs showed the ordinary signs of death from diphtheria toxin, the only difference among them being that the hair of those through which the rays had passed could be pulled out with unusual ease. The cultivations of tubercle bacillus all grew in the ordinary manner, so that they were evidently not affected by the rays.—*Lancet.*

A recent report from Rewa, India, states that a serious outbreak of cholera has occurred at that place, there having been one hundred and sixty deaths in two days. Energetic steps are being taken to check the progress of the disease.

The retiring president of the Queensland Branch of the British Medical Association proposed in his address that the **medical care of the people** should be part of a Public Health Department of the State. He suggested that a medical service for the whole colony be established, modeled somewhat on the lines of the Army Medical Service. The country should be divided into suitable districts, having a senior and two junior men to each, with relieving officers and inspectors; salaries to begin at not less than £300 a year, and promotion to be by years of service or for distinguished service on ballot of all the medical officers. Dr. Marks assumes that there are about two hundred practitioners in Queensland, with, roughly, an average income of £1000 a year, and the population is about 500,000. A sum of 8*s.* per head of population raised by Government taxation would give ample funds for the scheme, allowing for fair superannuation allowances. Such a scheme, he maintained, was the only remedy for the present abuses of lodges, dispensaries and hospitals. At the annual conference of the Political Labor League of New South Wales, January 26, it was moved and carried, "That the care of the public health being among the first duties of the State, the practice of medicine should be

a national service, the country to be divided into medical districts in charge of Government medical officers, whose services shall be absolutely free." The proposal simply charmed a large proportion of the conference.—*Lancet Australian Correspondent.*

A memoir on **the properties and uses of Papain** is included in a volume just published on "Indigestion" by Dr. G. Herschell. He describes the origin and nature of the ferment, and cites the evidence on which its powerful peptonizing influence was established. Experiments conducted with a view to deciding whether the substance produced true peptone or not, resulted in conclusive proof that the former was the case. For practical purposes, says Dr. Herschell, as a digestive ferment to be given medicinally, papain presents the following advantages over pepsin and pancreatin:

1. It will convert or digest many more times its own weight of meat than they are able to.

2. It can be used when pepsin and pancreatin are contraindicated or powerless.

This latter, as known, is the case when the stomach contents are too concentrated, or insufficiently acid. Under these conditions pepsin is of little or no value, while papain acts energetically. Other advantages of papain are expressed as follows:

3. As regards albuminoids it combines in itself the joint action of pepsin and pancreatin.

4. It can be given combined with acids, alkalies or antiseptics, as indicated by the demands of the case.

5. It has a local action on the stomach that pepsin has not.

6. It is not so repulsive to the mind as pepsin, as it is purely vegetable.

All these properties being taken into consideration, papain is regarded as being indicated in deficiency of the gastric juice, excess of unhealthy mucus in the stomach, irritable condition of that viscus, and duodenal dyspepsia.

The effect of papain is thus two-fold, local on the stomach itself, or physiologic, removing unhealthy mucus, stimulating the secretion of gastric juice and relieving pain; and chemical, in peptonizing the food, and assisting the natural ferments in the work of digestion.

THE St. Louis board of health now uses formaldehyde for fumigating purposes.

A machine to magnify odors, just as the microphone does sound, is said to have been invented by a Binghamton, N. Y., genius. The story is rather Munchausenish; but, if it be true, the inventor has evidently made a mistake. What the general public wants is a machine that will seize an able-bodied smell, like that of Limberger cheese or Brooklyn water, and instantly reduce it to zero. Perhaps the Binghamton man's device will do this already if it be run backward. Why not try the experiment?—*Sanitarian.*

In cases of excessive perspiration Krahn (*Therapeut. Monatsch.*, March, 1897) recommends the use of the tincture of salvia, twenty drops in the morning and from twenty to forty drops in the evening. It must be taken continuously for several weeks in order to obtain a permanent cure. Unfortunately this old, harmless, and cheap remedy, like many others of its class, is unknown to the present generation of physicians.—*Med. News.*

Pain and its Therapeusis.—Dr. S. V. Clevenger, after pointing out the disadvantages of various analgesic drugs, states that lactophenin is destined to supersede largely the entire array of analgesics proper, owing to its nontoxic peculiarities and the feeling of comfort described by many physicians as following its use. It affords the best results with the least ill effects. Its range of incompatibility is less than other synthetic compounds, and it may be combined with caffein, quinin and salicylic acid. The minimum dose of 5 to 10 grains may be increased until a daily maximum of 45 grains has been reached. It is but slightly soluble in water, although acting promptly, so that it can be given dry, and be washed down with a drink of water. A dose of 15 grains usually acts as a feeble hypnotic. There are no untoward symptoms following its use, and, contrary to the experience with some synthetic drugs, the pulse becomes fuller and stronger under its use. The range of application is extensive, and the testimony of the author is in corroboration of the findings of other physicians as to its superior analgesic effects, its safety and promptness of action.—R. W. Wilcox, M. D., in *American Journal of the Medical Sciences*, May, 1897, quoting from *Journal of the American Medical Association*, 1897, No. 5.

It is absurd, says the *British Medical Journal*, to talk of a **natural decline of smallpox**, as plague has declined and vanished, from this country at least, when we observe the virulence of smallpox in local outbreaks, and when we think of the very large mortality which countries like Spain and Russia still show, countries where there is very little vaccination. Here are the smallpox death-rates per million living, for the single year 1889, in the following provinces of Spain: Almeria, 3080; Murcia, 2670; Corunna, 1250; Malaga, 1340; Cadiz, 1330; Cordova, 1400. The rate for Germany is four for the same year.

THE urine of persons after eating asparagus is said to reduce Fehling's solution.

Suicides in Financial Depression.—It is stated as a fact that in 1890 the number of suicides was 2,040, in 1891 3,531, in 1892 3,860, in 1893 4,436, in 1894 4,912, in 1895 5,759, and in 1896 6,420, and these all occurred in the United States. What relation has this to the general business depression, and the consequent

inability to provide for the family, if any, and is the same increase shown during other times of financial depression? The records of insurance companies ought to be particularly interesting as to these statistics. Among those who have considered the subject the incontestable policy is blamed very largely for the enormous increase in self-destruction.—*Medical Examiner*, April.

A Removal of a New Growth from the Liver.—The liver is not an accessible organ so far as modern surgery is concerned, although the case to which attention is drawn below, did not involve any operation of a formidable nature. The patient (married) was under the care of Dr. Jacob von Rosenthal, who published the notes of the case in the January number of the Deutsche Medical Wochenshrift. She had suffered for six weeks with pain, vomiting, and rapid loss of strength. Palpation showed in the lower abdomen a hard, round mass the size of a child's head, movable upwards and sideways. The boundaries of the liver were apparently normal. Vaginal examination revealed no connection between the mass and the uterus. The diagnosis rested between a dermoid and an omental tumor, but on opening the abdomen it proved to be a pedunculated growth from the Spigelian lobe of the liver, bluish-brown in color, and rough and uneven on the surface. A ligature was placed as high up on the pedicle as possible. The tumor was then cut off by a wedge-shaped incision, and the stump sewed up with a continuous suture, and fastened extra-peritoneally in the abdominal wound. Microscopically the new growth was found to be an angioma fibroma. The patient made a good recovery.—*Medical Press and Circular.*

As a prophylactic measure for fissured nipples Lepage recommends that the nipples should be regularly washed with the following solution:

Mercuric iodid, . . .	2 to 4 grs.
Spirits of wine, ...	1½ ozs.
Glycerol, ...	1 pt.
Distilled water, ...	1 pt.

If, after using this for a few days, the ulceration disappears, a solution of boric acid may be substituted. Aristol is also highly recommended by Vinay in an ointment containing 1 drachm to 5 of vaseline. Joise has observed that cocaine, when applied to cracked nipples, has the power of diminishing the milk secretion, and from this fact he was led to the use of this agent when he desired to complete suppression of milk. He applies a 5 per cent. solution in equal parts of glycerin and water five or six times daily to the nipples. Suppression of the milk is observed in from two to six days. By producing anesthesia of the nipples, cocaine prevents its erection, and thus favors the decrease in the quantity of milk. —*The Practitioner.*

It has many times been suggested that flies, mosquitoes, and other **insects are active agents in the dissemination of such maladies as cholera**, yellow fever, and malaria; and recent studies by Dr. Bignani, of Italy, have developed some interesting facts which confirm this view. It appears from these experiments that malaria parasites are not carried by the wind, at least to the extent generally supposed. If this were the case, they would be likely to be carried away by a good strong breeze blowing steadily for some days. If the mosquito acts in the capacity of a vaccinator, it is readily seen why the malaria parasite adheres so closely to given localities, since the mosquito avoids being carried off by the wind by hiding in thick grass, trees, and shrubs whenever the wind blows. The greater danger of contracting malaria through exposure to the night air is also thus explained. The mosquito is well known to be nocturnal in its habits. It always flies near the ground, never ascending to any great altitude in its flight. The dwellers on the Roman Campagna, which is a well-known malarial region, elevate their houses upon high pedestals. The writer once saw a cottage perched upon the top of an ancient mammoth tombstone on the Appian Way near Rome. In this cottage dwelt an Italian peasant with his wife and little ones, who required the services of a ladder nearly twenty feet in length to reach their melancholy dwelling.

It has long been known that persons dwelling in malarious regions are less likely to take malarial fever if they protect themselves from the bites of mosquitoes. A missionary friend dwelling in one of the most unsalubrious regions of Africa, where malarial fever is extremely frequent and malignant in character, in a letter not long since, expressed the view that malarial fever was sometimes the result of the stings or bites of ants.—*Louisville Medical Monthly.*

The operation for the radical cure of hydrocele should be performed in the following manner: the sac is punctured in the usual way, and when about one-third or one-half of the fluid has been withdrawn, two drachms of a saturated solution of bichloride of mercury in glycerin are injected and mixed with that which remains, and allowed to rest in the sac for from half a minute to a minute. The whole of the fluid is then drawn off to the last drop. Very little pain is experienced, and unless the patient is nervous and takes an anesthetic, he is able to move about immediately after the operation. For the next few days he must, as a rule, lie about, but need not in any case be confined to bed, and in a week or less he is quite well. Provided the surgeon is careful that his hands and instruments are clean and free from micrococci when the puncture and injections are made, they produce a uniform result, *i. e.*, sufficient aseptic inflammation to obliterate the sac and nothing more.—*International Medical Journal.*